Figure 1. Effect of Sol Particle Size

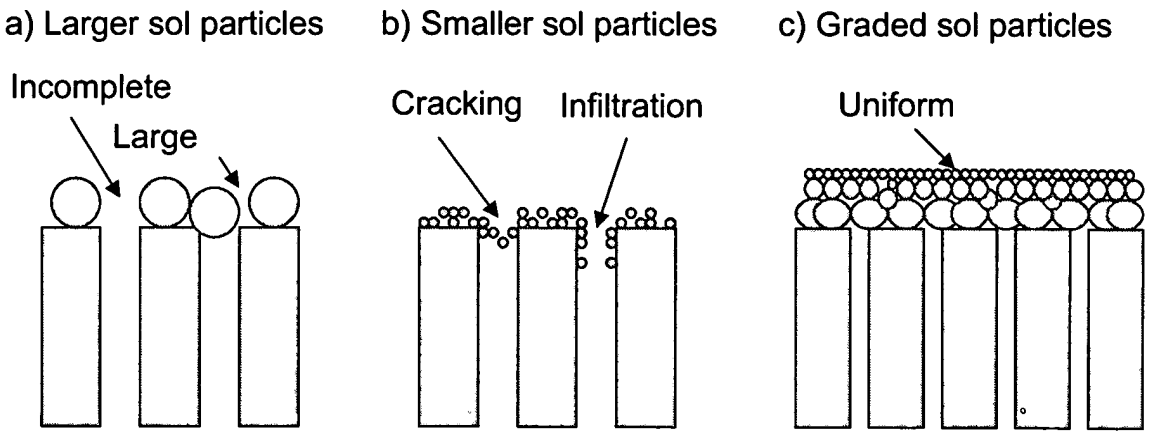

Figure 2. Particle Size Distributions of Boehmite Sols Peptized with Different Acids. Molar ratio of H^+/Alkoxide= 0.10

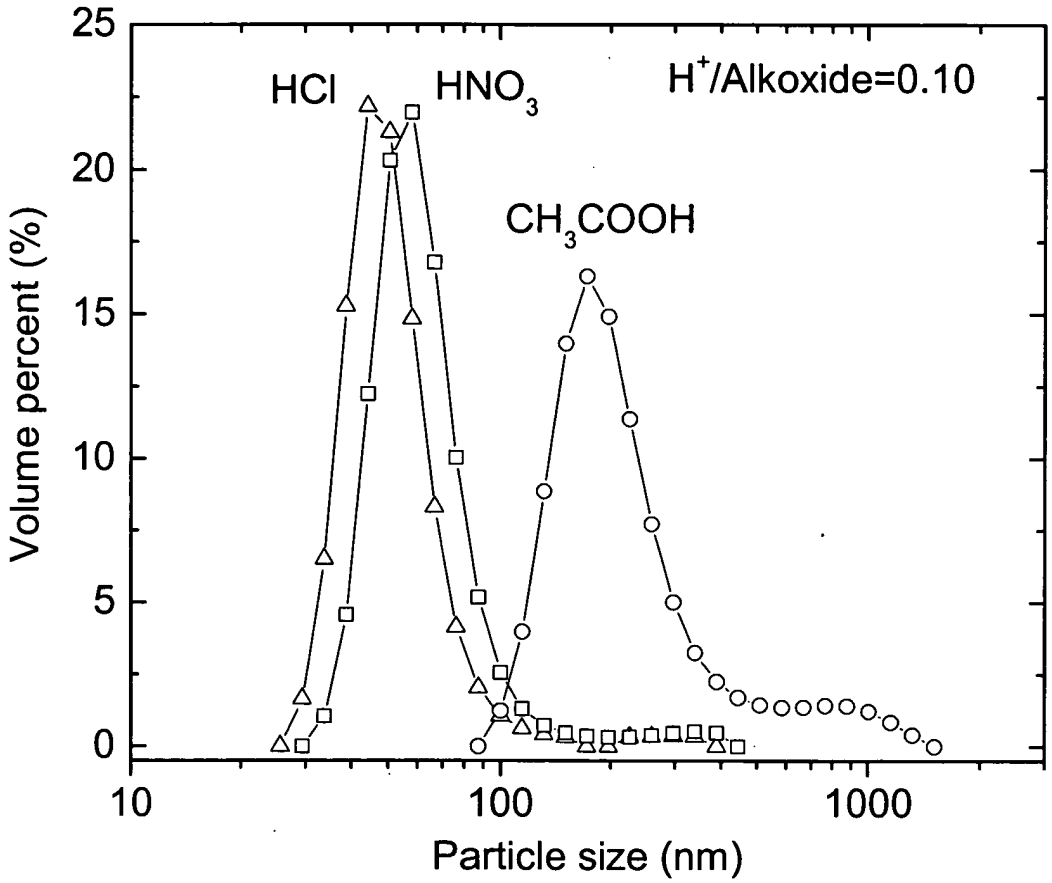

Figure 3. Particle Size Distributions of Boehmite Sols Peptized with Acetic Acid. Molar ratio of H^+/Alkoxide are indicted.

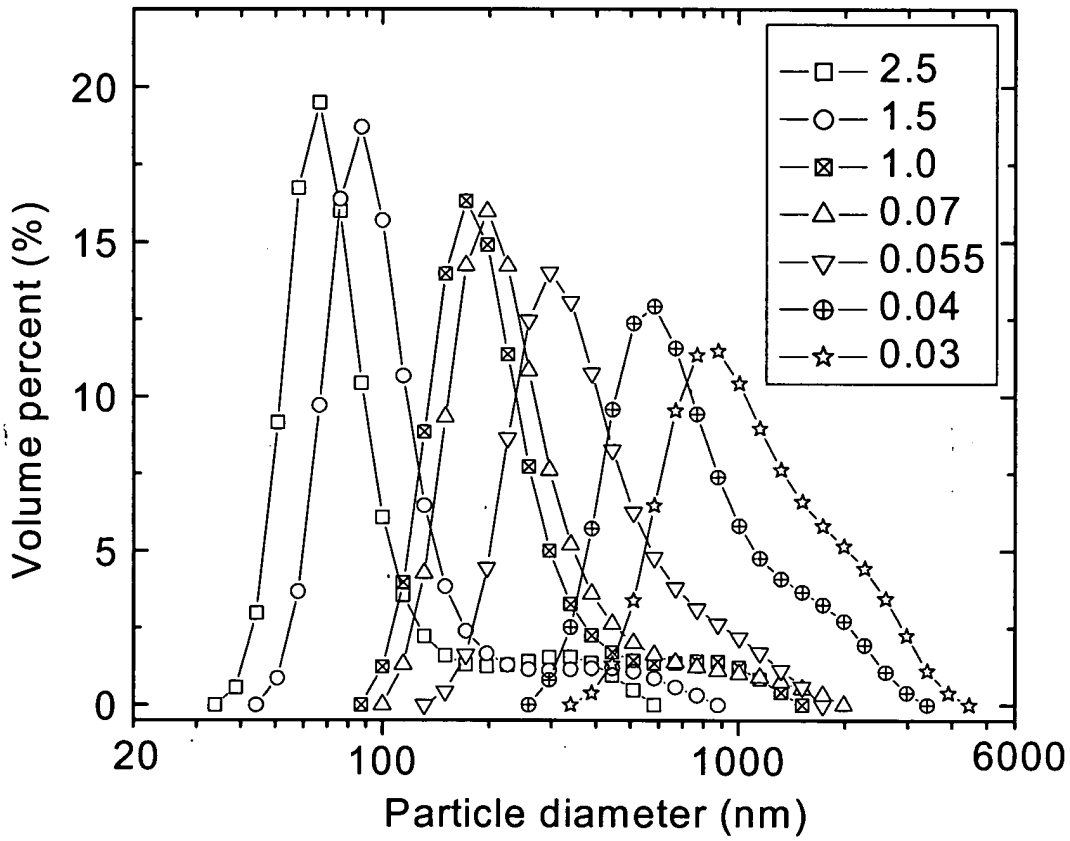

Figure 4. Particle Size Distributions of Boehmite Sols Hydrolyzed for Different Times

Times = 0.5, 3, 24 and 72 h, followed by peptization with acetic acid (H^+/Alkoxide=0.15)

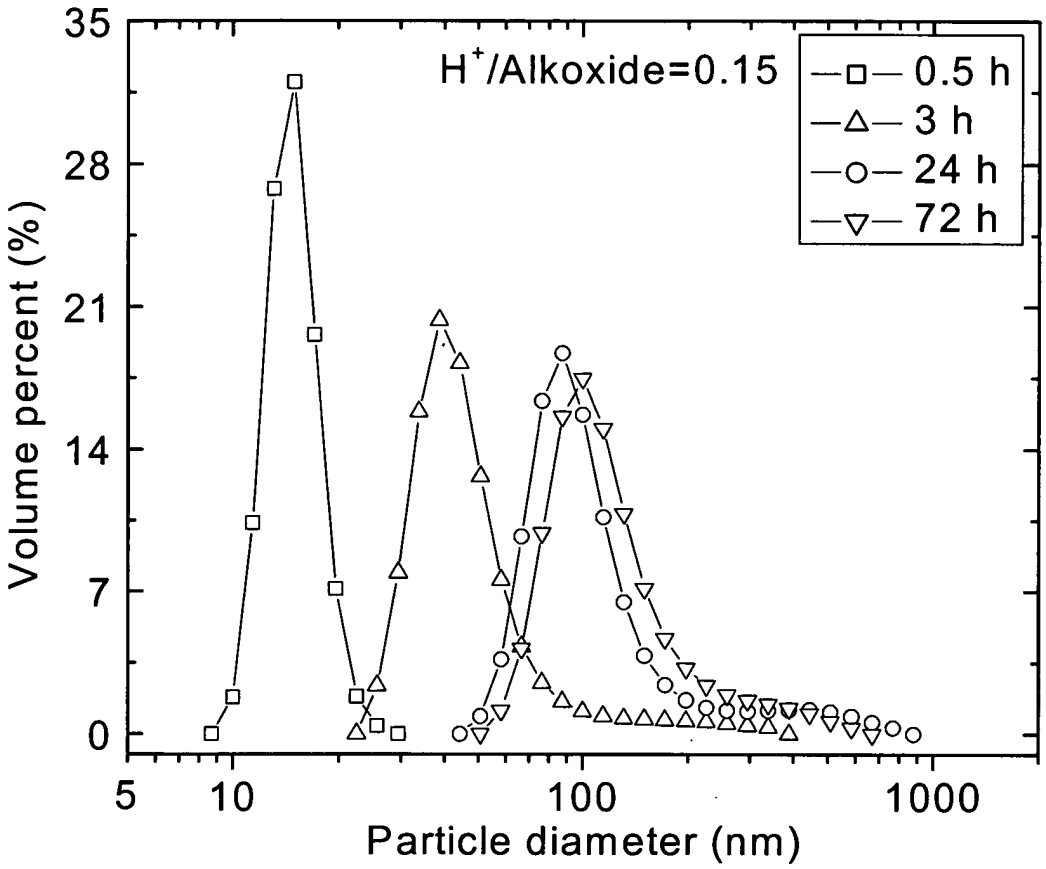

Figure 5. Schematic of Dip-Coating Machine

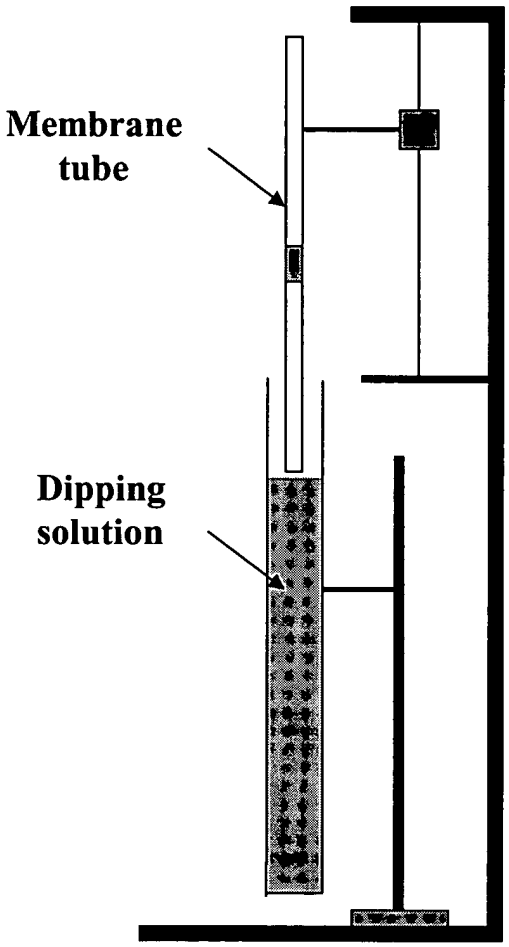

Figure 6. Pore Size Distributions of Gamma-Alumina Supports Obtained from boehmite sols with particle size of 630, 200 and 40 nm

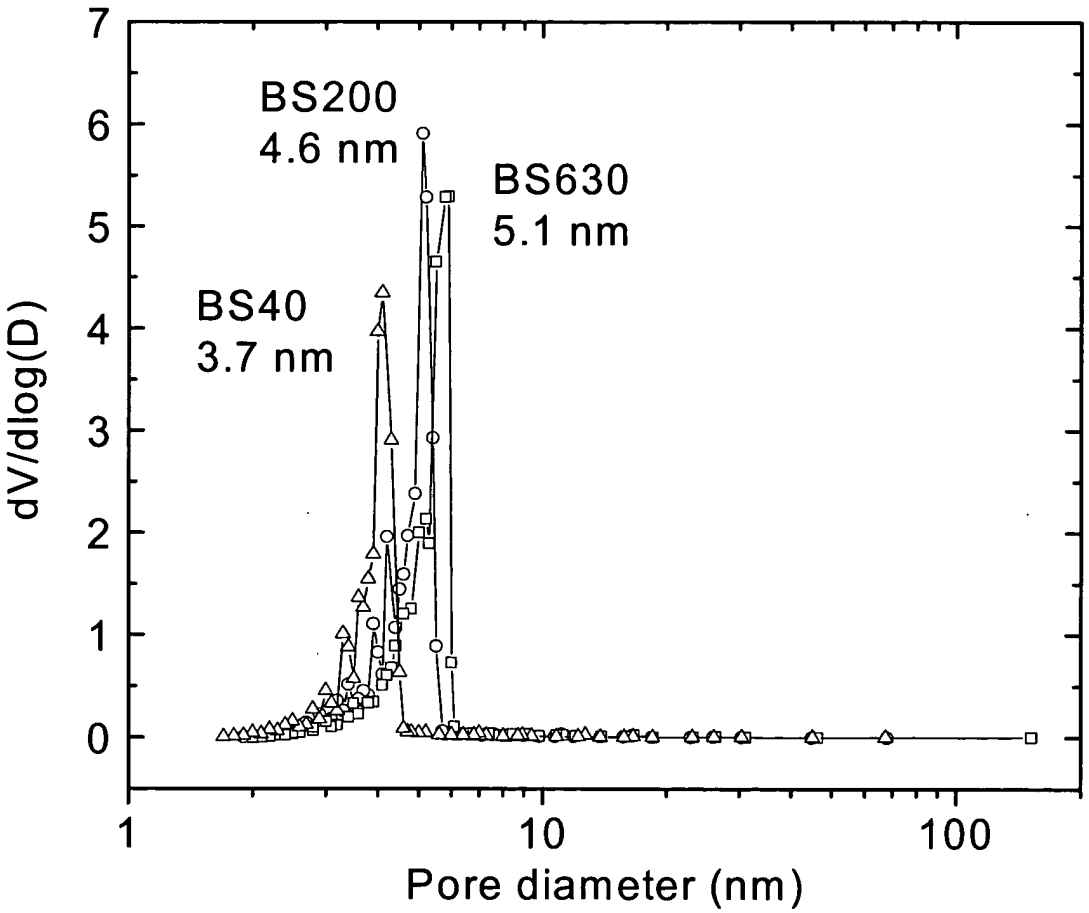

Figure 7. Schematic of CVD Apparatus Used in the Deposition of the Silica Layer

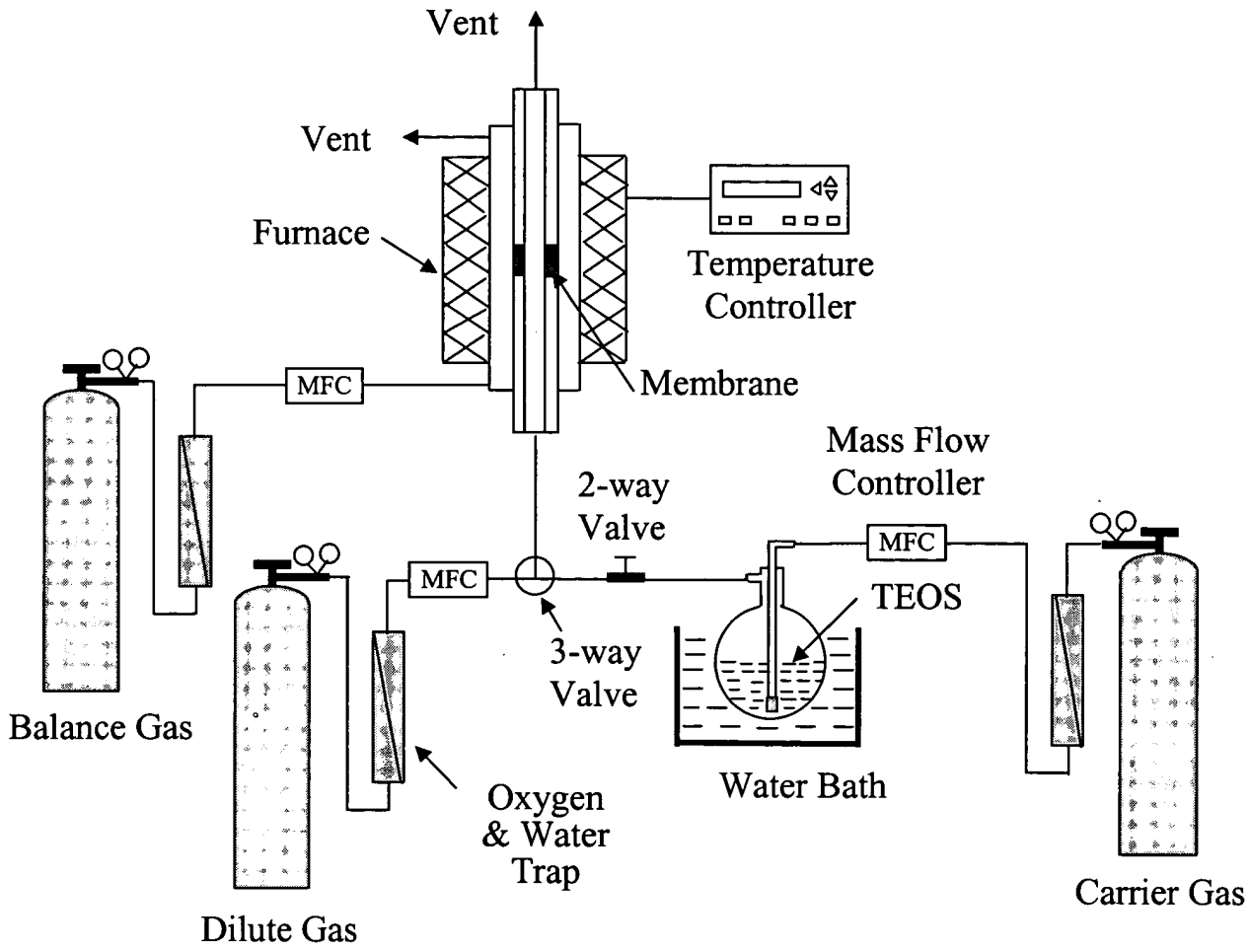

Figure 8. Permeation Properties at 873 K of an Ungraded Four-Layer Silica/Alumina Membrane. A silica layer was deposited on an intermediate gamma-alumina layer, which was obtained by sequentially dipping-calcining sols four times with the same particle size of 630 nm.

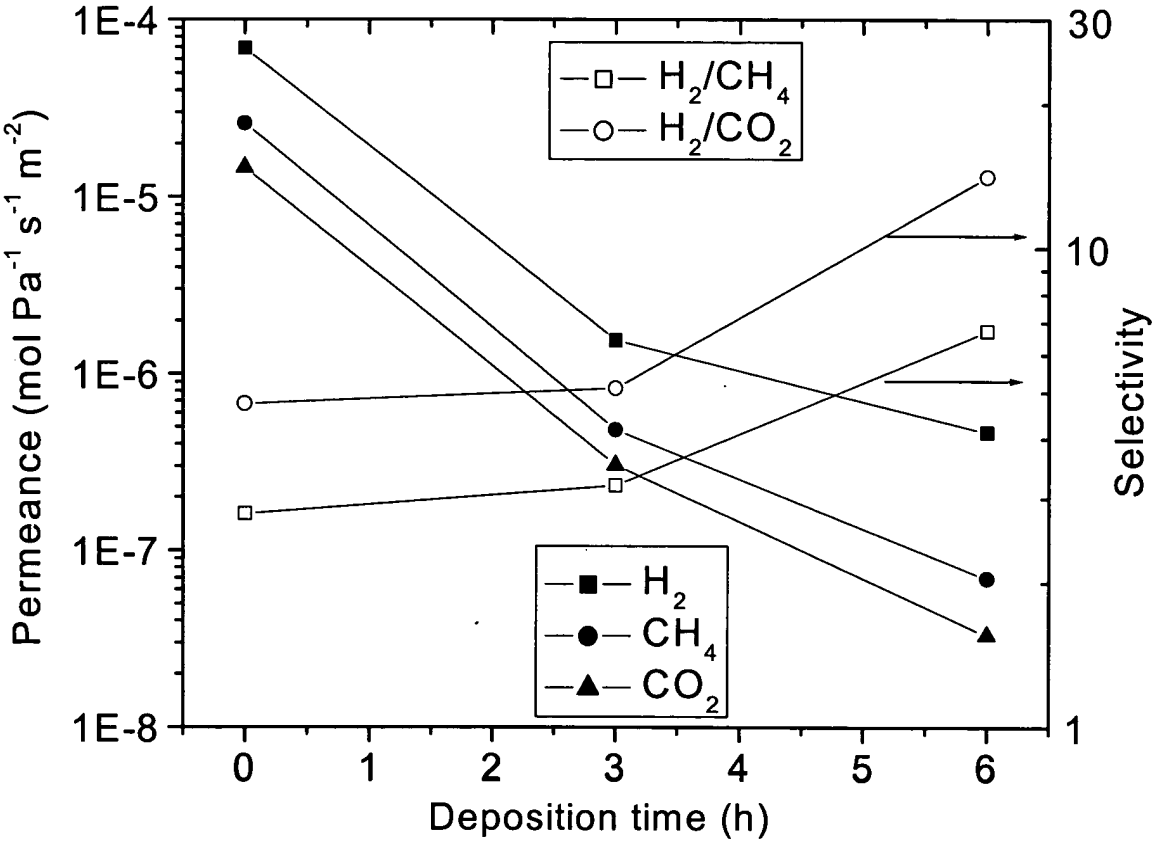

Figure 9. Permeation Properties at 873 K of a Graded Four-Layer Silica/Alumina Membrane. A silica layer was deposited on an intermediate gamma-alumina layer, which was obtained by sequentially dipping-calcining sols with particle size of 630, 630, 200 and 40 nm

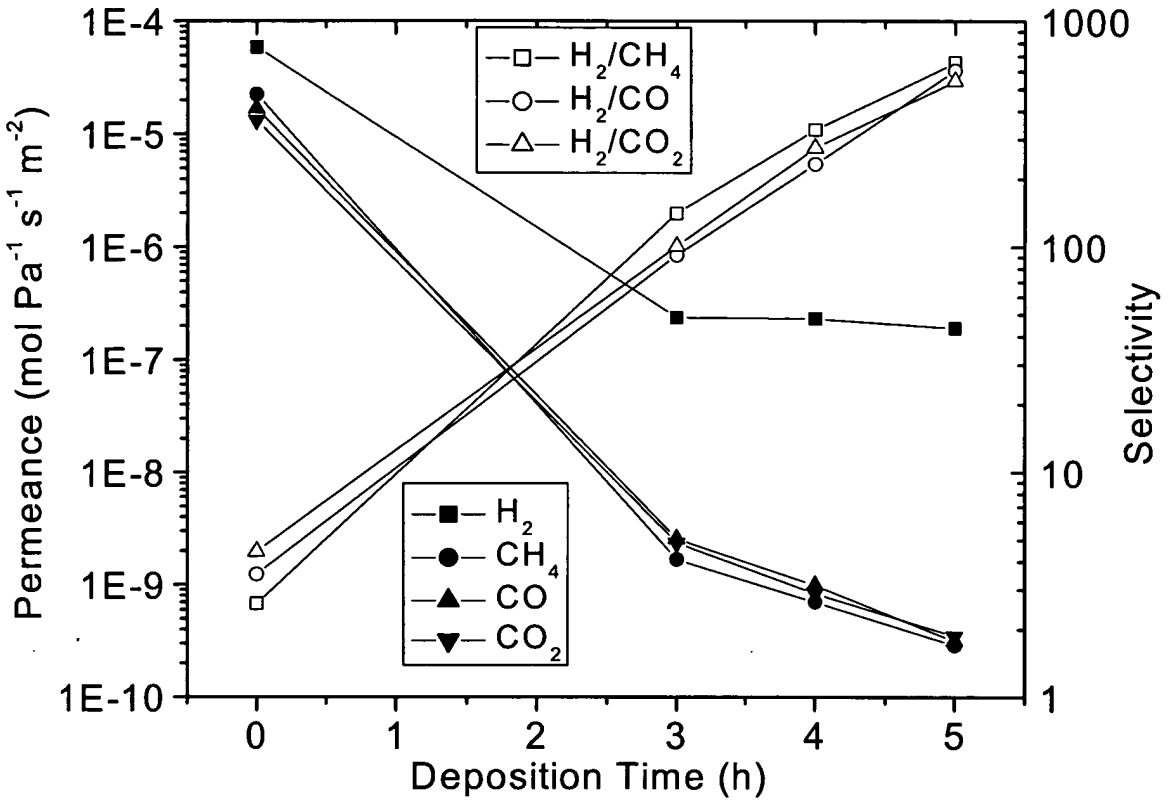

Figure 10. Permeation Properties at 873 K of a Graded Five-Layer Silica/Alumina Membrane. A silica layer was deposited on an intermediate gamma-alumina layer, which was obtained by sequentially dipping-calcining sols with particle size of 630, 630, 200, 40 and 40 nm

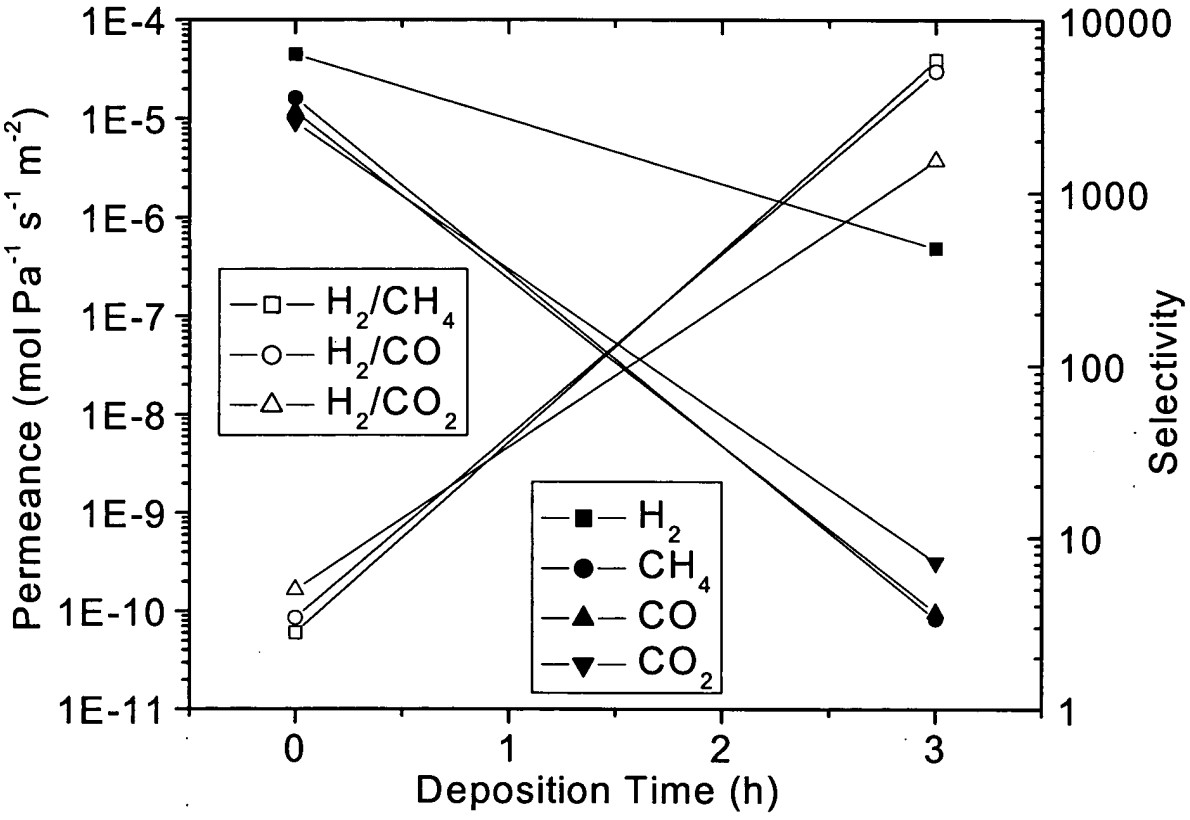

Figure 11. Permeability of He, H_2, and Ne through Graded Five-Layer Silica/Alumina Membrane. A silica layer was deposited on an intermediate gamma-alumina layer, which was obtained by sequentially dipping-calcining sols with particle size of 630, 630, 200, 40 and 40 nm